



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,194	12/16/2005	Chan Wah Ng	L9289.05196	3919
53989 7590 07/21/2008 DICKINSON WRIGHT PLLC 1901 L STREET NW SUITE 800 WASHINGTON, DC 20036			EXAMINER CHAMBERS, TANGELA T	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 07/21/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/561,194

Applicant(s)

NG ET AL.

Examiner

TANGELA T. CHAMBERS

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-856)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment and arguments filed on 5/21/2008.
2. Claims 1, 2 and 6 have been amended.
3. Claims 1-6 are rejected.

Response to the Arguments

4. The applicant's arguments filed on 5/21/2008 have been fully considered, but they are not persuasive. In the Remarks, the applicant has argued in substance:

(1) The applicant argued features, i.e., a mobile terminal apparatus including a plurality of interfaces capable of obtaining a connection to a network using one of a home-address and a care-of-address, where the home address is assigned to the mobile terminal in advance and the care-of-address is assigned when the interface is in a domain when the home-address is not available. Said mobile terminal further includes an instruction section capable of setting up binding of a home-address of a first interface to one of a home-address and a care-of-address of a second interface when said first interface loses a connection through a care-of-address of said first interface.

Response:

(1) The argued features read upon Lee et al (Lee) in view of Dutta et al (Dutta).

Lee discusses a mobile unit. Thus Lee shows the limitation of "a mobile terminal apparatus".

Lee discusses connecting to a network using one of a home-address and a care-of-address. Thus Lee shows the limitation of "a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof

is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address".

Lee discusses the mobile unit being assigned a unique, fixed Internet address. Thus Lee shows the limitation of "said home-address being assigned to said interface in advance".

Lee discusses a mobile unit obtaining a care-of-address when the mobile unit is away from home. Thus Lee shows the limitation of "said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available".

Lee discusses the home and foreign agent maintaining a mobility binding table based on the location of the mobile unit. Thus Lee shows the limitation of "a setup section that sets up the binding".

Lee did not specifically disclose "an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces said first interface losing a connection obtained through a care-of-address of said first interface". Therefore Lee is modified by Dutta to show such features were obvious in the art at the time of the invention.

As a result, the argued features were shown by Lee as modified by Dutta.

(2) Regarding the applicant's arguments within the dependencies, Lee as discussed above, disclosed those limitations or Lee as modified by the secondary references Dutta, Gwon and Linder et al show those limitations.

As a result, the argued features read upon the references as follows:

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Lee) (US Patent No. 6,535,493 B1) in view of Dutta et al (Dutta) (US Patent Publication No. 2004/0122976 A1).

As per claim 1, Lee discloses:

- ***A mobile terminal apparatus comprising:*** (Lee, Abstract).
- ***a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address,*** (Lee, Column 8, Line 54 - Column 9, Line 45), Lee teaches connecting to the network using one of a home-address and a care-of-address.
- ***said home-address being assigned to said interface in advance,*** (Lee, Column 3, Lines 43-55, "The mobile unit may freely roam about even though it is assigned to a unique, fixed Internet address tied to a fixed location.").
- ***said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available;*** (Lee, Column 6, Lines 35-49, "When away from home, the mobile unit 130 obtains a care-of address such as the IP address of its foreign agent, and uses its foreign agent to register this address with its home agent so that datagrams destined for the mobile unit 130 are forwarded to the foreign agent and then to the mobile unit 130 using the tunneling process.").
- ***a setup section that sets up the binding.*** (Lee, FIG. 6, Column 10, Lines 53-65 and FIG. 7, Column 11, Lines 48-61.).

Lee does not specifically disclose the following limitations. However, Dutta in an analogous art teaches the following:

- ***an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface;*** (Dutta, Fig. 2B and Page 5, Paragraph [0037] – Page 6, Paragraph [0042], “When the crossover node 214a receives the message, it updates its routing cache entry for the care-of-address, replacing the original downlink interface 228 with the new interface 226 pointing towards base station 216a.”).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dutta into the apparatus of Lee to setup a binding of a home-address of a first interface to one of a home-address and a care-of-address of a second interface when said first interface connection is lost. The modification would be obvious because one of ordinary skill in the art would want the advantage of allowing for integrated mobility management addressing both intra-domain and inter-domain mobility for both real-time and none-real time applications. (Dutta, Page 2, Paragraph [0011]).

Claim 6 is the method claim corresponding to the apparatus claim 1 and is rejected under the same reasons as set forth in connection of the rejection of claim 1; and further Dutta discloses:

- ***A handoff method.*** (Dutta, Page 5, Paragraph [0036]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dutta into the method of Lee to include a handoff method. The modification would be obvious

because one of ordinary skill in the art would want the advantage of allowing for integrated mobility management addressing both intra-domain and inter-domain mobility for both real-time and non-real time applications. (Dutta, Page 2, Paragraph [0011]).

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Lee) (US Patent No. 6,535,493 B1) in view of Dutta et al (Dutta) (US Patent Publication No. 2004/0122976 A1) and in further view of Gwon (US Patent Publication No. 2003/0016655 A1).

As per claim 2, the rejection of claim 1 is incorporated and further Lee discloses:

- ***a deciding section that decides whether or not the selected second interface is present in a domain where the home-address of said second interface is available;*** (Lee, FIG. 6, Column 10, Lines 35-65, "Upon receipt of the registration request, the process of FIG. 6 proceeds to step 374 where the AP checks whether or not it is acting as a foreign agent."... "Alternatively, in the event that the AP is not acting as a foreign agent, the process of FIG. 6 checks whether or not the AP is acting in the capacity of a home agent in step 378.").
- ***a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.*** (Lee, Column 9, Lines 57-65 and FIG. 7, Column 11, Lines 48-61).

Neither Lee nor Dutta specifically disclose:

- ***a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;*** However, Gwon in an analogous art discloses the above limitation. (Gwon, Page 5, Paragraphs [0047]-[0048]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee and Dutta to detect the loss of the connection. The modification would be obvious because one of ordinary skill in the art would want to a way to determine when wireless communication with the router has failed. (Gwon, Page 5, Paragraph [0047]).

- ***a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;*** (Gwon, Page 5, Paragraph [0049], "As mobile node (MN) 135 reaches intermediary location B and continues toward location C, in order to maintain communication with the network it must identify a new local router [.]"), Identifying a new local router is taught by Gwon as a way to search for a new interface.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee and Dutta to search for a new connection. The modification would be obvious because one of ordinary skill in the art would want to maintain communication with the network by identifying a new network link. (Gwon, Page 5, Paragraph [0049]).

- ***a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been***

searched; (Gwon, Page 5, Paragraph [0049], "As mobile node (MN) 135 reaches intermediary location B and continues toward location C, in order to maintain communication with the network it must identify a new local router and establish a new network link to replace the link with local router R1.") Establishing a new network link, as taught by Gwon, is equivalent to selecting the new interface.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee and Dutta to select a new connection that has been searched. The modification would be obvious because one of ordinary skill in the art would want to maintain communication with the network by establishing a new network link before the existing connection is lost. (Gwon, Page 5, Paragraphs [0048]-[0049]).

As per claim 3, the rejection of claim 1 is incorporated, and claim 3 is rejected under the same reasons set forth in connection of the rejection of claim 2. Gwon further discloses:

- ***each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address;*** (Gwon, Page 6, Paragraph [0059] – Page 7, Paragraph [0061], "A mobile node 135 captures the Layer 3 beacons and periodically carries out a mobility prediction analysis 710 to determine when it is imminent that the mobile node 135 in communication with a correspondent node 140 must hand-off its network communications link from a current foreign agent (FA) 145 to another foreign agent as it moves from a location A to a location B in the network.").

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee and Dutta to predict a loss of connection. The modification

would be obvious because one of ordinary skill in the art would want to reduce packet latency, packet loss and packet jitter by pre-establishing a new route before hand-off occurs. (Gwon, Page 3, Paragraph [0027]).

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Lee) (US Patent No. 6,535,493 B1) in view of Dutta et al (Dutta) (US Patent Publication No. 2004/0122976 A1) in view of Gwon (US Patent Publication No. 2003/0016655 A1) and in further view of Linder et al (Linder) (US Patent Publication No. 2002/0194385 A1).

As per claim 4, the rejection of claim 1 is incorporated, and claim 4 is rejected under the same reasons set forth in connection of the rejection of claim 2. However, neither Lee, Dutta nor Gwon specifically disclose:

- ***a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;***

However, Linder in an analogous art discloses the above limitation. (Linder, Abstract and Page 3, Paragraph [0011], "In particular, through the constant monitoring of the physical network interfaces and their features, changes can be made automatically, for instance, when physical network interfaces are available with better transmission options than the one momentarily active").

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Linder into the apparatus of Lee, Dutta and Gwon to search for an interface with an access mechanism of a different type from the one associated with the first interface. The modification would be obvious because one of ordinary skill in the art would want to allow the mobile node to move to various locations with the ability to

access heterogeneous networks using different interfaces. (Linder, Pages 3-4, Paragraph [0025]).

- ***an activating section that activates an access mechanism associated with said selected second interface;*** (Linder, Abstract and Pages 5-6, Paragraph [0028], "The IPsec module 132 thereby updates the IPsec data tunnel configuration according to the current network connection, after which the mobile IP module 131 registers the new care-of address with the home agent so that the routing of the data packets to the new location of the mobile host takes place, and updates the IP configuration if necessary at the home agent according to the momentary physical network interface.").

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Linder into the apparatus of Lee, Dutta and Gwon to activate an access mechanism of the selected interface. The modification would be obvious because one of ordinary skill in the art would want to change and update the access mechanism without interruption to the mobile's communication. (Linder, Page 1, Paragraph [0003]).

As per claim 5, the rejection of claim 1 is incorporated, and claim 5 is rejected under the same reasons set forth in connection of the rejections of claims 2-4.

Conclusion

6. The prior art not relied upon but considered pertinent to applicant's disclosure is made of record and listed on form PTO-892.

Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TANGELA T. CHAMBERS whose telephone number is 571-270-3168. The examiner can normally be reached Monday through Thursday, 9:00am-6:30pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chameli Das, can be reached at telephone number 571-270-1392. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tangela T. Chambers/
Patent Examiner, Art Unit 2617
July 15, 2008

Art Unit: 2617

/Nick Corsaro/

Supervisory Patent Examiner, Art Unit 2617